

recanalización, y terapia de rescate fue iniciada en 6 (15 %). De ellos, 3 casos fueron tratados con desprendimiento de stent temprana seguida de una dosis estándar de antiplaquetarios IA, mientras que 3 fueron tratados con una secuencia de despliegue de stent más dosis baja de antiplaquetarios IA después de la segunda falla, seguido de recuperación de stent y revaloración. Todos ellos experimentaron recanalización completa, excepto un caso tratado sólo con antiplaquetarios IA. Ninguno de los pacientes experimentó deterioro neurológico temprano, transformación hemorrágica sintomática o re-oclusión en el seguimiento hospitalizado con MRA. Sólo uno de los pacientes tratados precozmente con stent presentó mRS  $\geq 2$  en 90 días, mientras que otro tenía una estenosis asintomática intra-stent en una DSA de seguimiento a los 6 meses.

**Conclusión:** El tratamiento de rescate adicional para las oclusiones refractarias a la trombectomía mecánica estándar puede ser un enfoque necesario para incrementar la tasa de recanalización y de buen resultado clínico. Describimos nuestra experiencia preliminar temprana con diferentes técnicas, que requiere más discusión y estudio.

### Rescue therapy for mechanical thrombectomy refractory occlusions with detachable stent-retrievers and GP IIb/IIIa inhibitors

#### ABSTRACT

**Background:** Endovascular mechanical thrombectomy with stent-retrievers is an effective and safe treatment in acute stroke patients with anterior circulation proximal occlusions. However, around 25 % of cases the recanalization is not possible, and additional therapies remain controversial. We aim to present our preliminary experience treating refractory occlusions by means of intra-arterial antiplatelets (GP IIb/IIIa inhibitors) and stent detachment.

**Methods:** We prospectively studied patients treated with endovascular therapy in our Center in Doha (Qatar), from April 2015 to September 2016. Those with refractory occlusions underwent additional “off protocol” therapy if: 1) low risk of reperfusion bleeding was estimated, 2) high suspicion of underlying unstable atherosclerotic plaque and/or “very sticky clot”, and 3) good pre-procedure collateral status. Different approaches were chosen based on periprocedural findings and expert opinion. Frequency, rescue therapy methodology, clinical and radiological outcome will be described.

**Results:** During the study period, 39 patients were treated with endovascular therapy. 7 (18 %) did not experience recanalization, and rescue therapy was initiated in 6 (15 %). Of them, 3 cases were treated with early stent detachment followed by a standard dose of IA antiplatelets, whereas 3 were treated with a sequence of stent deployment plus low dose of IA antiplatelets after the second failed pass, followed by stent retrieval and reassessment. All of them experienced complete recanalization, except one case treated only with IA antiplatelets. None of the patient experienced early neurological deterioration, symptomatic hemorrhagic transformation, or re-occlusion at inpatient follow-up MRA. Only one of the patients treated with early stenting presented mRS  $\geq 2$  at 90 days, while another had an asymptomatic intra-stent stenosis in a follow up DSA at 6 months.

**Conclusion:** Additional rescue therapy for refractory occlusions to standard mechanical thrombectomy may be a necessary approach to increase the rate of recanalization and good clinical outcome. We describe our early preliminary experience with different techniques, which requires further discussion and study.

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**Palabras clave:** Ictus; Terapia Endovascular; Antitrombóticos

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### El papel de los neurocirujanos cubanos en el desarrollo de la Neurocirugía en Etiopía

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#### RESUMEN

Etiopía, una nación de más de 90 millones de personas se enfrenta a grandes retos y grandes oportunidades en la búsqueda de mejorar el acceso nacional a los cuidados de salud. Además, de los intimidantes desafíos socioeconómicos, el desarrollo del conocimiento médico en Etiopía también ha sido obstaculizado por la emigración de médicos. Aproximadamente el 15 por ciento de los médicos etiopes actualmente están practicando en los Estados Unidos, Canadá o Australia, con otra parte importante que otras partes de África y Oriente Medio. Hasta el final de 1990, hubo al menos dos neurocirujanos cubanos entre el gran número de cubanos médicos y paramédicos que constituyen "Brigada Médica Cubana en Etiopía Socialista". Fue sólo a finales de la caída del régimen socialista, tres neurocirujanos etiopes, dos de ellos formados en Cuba comenzaron a proporcionar servicios de Neurocirugía básicos. La evolución del desarrollo de la neurocirugía se describe en cuatro periodos o épocas en la que se acentúa fuertemente el papel de la parte cubana.

### The role of Cuban neurosurgeons in the development of neurosurgery in Ethiopia

#### ABSTRACT

Ethiopia, a nation of more than 90 million people faces both great challenges and great opportunities in the pursuit of improved national access to health care. In addition to the daunting of socioeconomic challenges, the development of medical knowledge in Ethiopia also has been hindered by physician emigration. Approximately 15 percent of Ethiopian physicians now are practicing in the United States, Canada or Australia, with another significant portion serving other portions of Africa and the Middle East. Until the end of 1990, there were at least two Cuban neurosurgeons among the huge number of Cuban physicians and paramedics that constitute "Brigada Medica Cubana en Etiopía Socialista". It was only by the end of the downfall of Socialist regime, three Ethiopian Neurosurgeons two of them trained in Cuba started providing basic Neurosurgical services. The evolution of the development of Neurosurgery is described in four periods or era in which the role of the Cuban part is strongly emphasized.

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**Palabras clave:** África; Etiopía; Neurocirugía